

APPENDIX A

METOC TERMINOLOGY

METEOROLOGICAL TERMINOLOGY

1. Clouds

- a. Clear - Less than one-eighth of the sky is covered by clouds.
- b. Scattered - One-eighth through four-eighths of the sky is covered by clouds.
- c. Broken - Five-eighths through seven-eighths of the sky is covered by clouds.
- d. Overcast - more than 90 percent of the sky covered (breaks in the clouds may be present).
- e. Clearing - Cloudiness decreasing markedly during the forecast period (decreases by at least four-eighths).
- f. Decreasing Cloudiness - Progressively decreasing sky (cloud) cover.
- g. Partial Clearing - A portion of the sky clearing, as from overcast to broken (eight-eighths to five-eighths coverage).
- h. Increasing Cloudiness - Progressively increasing sky (cloud) cover.

2. Precipitation

- a. Rain - Liquid water particles, either large or small, which fall to the surface in a continuous manner.
- b. Rain Showers - Liquid water particles, either large or small, which fall to the surface with rapid changes in intensity.
- c. Drizzle - Fine drops of liquid, very close together which float with air currents and slowly reach the ground. Drizzle droplets are too small to disturb still water.
- d. Snow - Ice crystals, mostly branched in the form of a six pointed star.
- e. Hail - Small balls or pieces of ice (hail stones), falling separately or frozen together in irregular lumps. Hail is normally associated with thunderstorms and surface temperatures above freezing.

3. Classification of Precipitation by Frequency

- a. Intermittent - Precipitation that stops and restarts at least once within each hour. Normally falls from stratocumulus or stratus type clouds.
- b. Continuous - Intensity that changes gradually, if at all. Normally falls from stratus type clouds.
- c. Showers - Precipitation that changes intensity or starts and stops abruptly. Showers normally fall from cumuliiform type clouds.

4. Precipitation Intensities (Rain)

a. Slight - Individual drops are easily identifiable; spray over hard surfaces is slight; pools form very slowly; over 2 minutes may be required to wet decks and similar dry surfaces; visibility not reduced or reduced slightly.

b. Moderate - Individual drops are not clearly identifiable; some spray over hard surfaces; pools form rapidly; visibility is reduced.

c. Heavy - Rain, seemingly in sheets; individual drops are not clearly identifiable; heavy spray to height of several inches is observable over hard surfaces; visibility is greatly reduced.

5. Precipitation Intensities (Snow or Drizzle)

a. Slight - Visibility five-eighth statute mile or more.

b. Moderate - Visibility less than five-eighth statute mile but not less than five-sixteenth statute mile.

c. Heavy - Visibility less than five sixteenth statute mile.

6. Frequency of Showers by Coverage

a. Isolated - One to two percent.

b. Widely Scattered - Three to fifteen percent.

c. Scattered - Sixteen to forty-five percent.

d. Numerous - Greater than forty-five percent coverage.

7. Wind

a. Wind - The horizontal motion of air past a given point.

b. Wind Direction - The direction FROM which the wind is blowing.

c. Variable Wind Direction - Wind direction that fluctuates by 30° or more during the period of the observation.

d. Gust - Rapid fluctuations in wind speed with a variation of 10 knots or more between peaks and lulls.

e. Squalls - A sudden increase of the wind speed by at least 15 knots and sustained at 20 knots or more and lasting for at least one (1) minute.

f. Wind Shift - A change in wind direction of 45° or more which takes place in less than 15 minutes.

g. Veering - A clockwise change in wind direction.

h. Backing - A counter-clockwise change in wind direction.

i. Calm - 0 to 1 knot (Beaufort force 0)

j. Light Air - 1 to 3 knots (Beaufort force 1)

k. Light Breeze - 4 to 6 knots (Beaufort force 2)

l. Gentle Breeze - 7 to 10 knots (Beaufort force 3)

- m. Moderate Breeze - 11 to 16 knots (Beaufort force 4)
- n. Fresh Breeze - 17 to 21 knots (Beaufort force 5)
- o. Strong Breeze - 22 to 27 knots (Beaufort force 6)
- p. Near Gale - 28 to 33 knots (Beaufort force 7)
- q. Gale - 34 to 40 knots (Beaufort force 8)
- r. Strong Gale - 41 to 47 knots (Beaufort force 9)
- s. Storm - 48 to 55 knots (Beaufort force 10)
- t. Violent Storm - 56 to 63 knots (Beaufort force 11)
- u. Typhoon - 64 knots or greater (Beaufort force 12 - 17)

8. Pressure Systems

- a. Anticyclone - A clockwise circulation (Northern Hemisphere), counter-clockwise circulation (Southern Hemisphere). Associated with high pressure and generally good weather.
- b. Cyclone - A counter-clockwise circulation (Northern Hemisphere), clockwise circulation (Southern Hemisphere). Associated with low pressure and generally poor weather.
- c. Ridge - An elongated area of relatively high pressure that extends from the center of a high. The wind circulation is essentially anticyclonic. Usually associated with fair weather.
- d. Trough - An elongated area of relatively low pressure that extends from the center of a low. The wind circulation is essentially cyclonic. Usually associated with poor weather.
- e. Lee Trough - A pressure trough formed on the lee side of a mountain range or an island across which the wind is blowing almost perpendicular.

9. Fronts

- a. Cold Front - A line of discontinuity along which a wedge of cold air is underpinning and displacing warm air. Cold fronts are normally located in well-defined pressure troughs whenever there is a marked temperature contrast between two adjacent air masses.
- b. Warm Front - A line of discontinuity where the forward edge of a warm air mass is replacing a retreating cold air mass. Warm fronts are generally located in pressure troughs, although these troughs are not as well defined as those in which cold fronts are located.
- c. Occluded Front - Occlusions are a combination of overtaking cold and warm fronts. The resulting weather is a combination of the conditions which exist with both frontal types.
- d. Quasi-stationary Front - This type of front is one along which one air mass does not appreciably replace the other.

10. Tropical Meteorology

- a. Shearline - A line in the tropics along which there is significant variation in wind velocity. Generally a line of cyclonic shear. Often associated with clouds and precipitation. Generally shearlines are the extreme southern extension of cold fronts along which the cold air mass has been modified to the point that discontinuities exist only in wind speed and direction.

- b. Line of Convergence - A line or area in which the horizontal wind field is converging (coming together). Associated with cloudiness and precipitation.
- c. Tropical Wave - A tropical wave, sometimes referred to as an "Easterly Wave", is defined as a trough or a cyclonic curvature maximum located in the easterly trade winds.
- d. Tropical Cyclone - A non-frontal low pressure system of synoptic scale, developing over tropical or sub-tropical waters and having a definite organized circulation. Tropical depressions, tropical storms and typhoons are tropical cyclones.
- e. Intertropical Convergence Zone (ITCZ) - A zone of convergence between the northeast trades of the Northern Hemisphere and the southeast trades of the Southern Hemisphere. The ITCZ is also referred to as a zone of inter-tropical confluence (ITC), the equatorial trough, as the equatorial front or the intertropical front.

11. Tropical Disturbance

A discrete system of apparently organized and persistent convection (generally 80-280 nm in diameter), originating in the tropics or sub-tropics, having a non-frontal migratory character and having maintained its identity for 24 hours or more. It may or may not be associated with a detectable cyclone, the basic generic designation which, in successive states of intensification, may be classified as a tropical depression, storm or typhoon.

- a. Tropical depression - A tropical cyclone in which the maximum sustained surface wind (1-minute mean) is 33 knots or less.
- b. Tropical Storm - A tropical cyclone with maximum sustained surface winds (1-minute mean) in the range of 34 to 63 knots.
- c. Typhoon/Hurricane - A tropical cyclone in which maximum sustained surface wind (1-minute mean) ranges from 64 to 129 knots, inclusive. East of 180°, they are called hurricanes. Typhoons with winds of 130 knots or greater are classified as supertyphoons. Foreign governments use these or other terms for tropical cyclones and may apply different intensity criteria.

12. Terms Associated with Typhoons

- a. Feeder Band - Intense bands of clouds and rain spiraling counter-clockwise (clockwise in the Southern Hemisphere) in towards the center of a tropical cyclone.
- b. Wall Cloud - The wall of clouds that forms at the periphery of the eye. The Wall cloud contains the most severe weather and highest winds of a tropical cyclone.
- c. Eye - The relatively calm area that occurs in the center of a tropical cyclone. Size may vary from approximately 1 nm to over 45 nm.

OCEANOGRAPHIC TERMINOLOGY

1. Sea and Swell

- a. Sea - Wind waves observed within their generating area (fetch), with the wave direction generally that of the local wind direction. Wind waves (sea), as opposed to swell, have sharper peaks and irregular appearance.
- b. Swell - Ocean waves which have traveled out of their generation area. Swell characteristics exhibit a more regular and longer period and have a flatter crest than waves within a fetch area. They are no longer under the influence of the wind that generated them.

c. Combined Seas - Combined sea and swell given as the significant height (in feet) of the waves when the sea and swell are combined.

d. Significant Height (Waves) - Average height of the highest one-third of the waves of a given wave group. Forecasts for sea, swell and surf are always given as significant height.

e. Wave Direction - Direction FROM which the waves are coming.

f. Wave Height - Vertical difference between the wave trough and the wave crest.

g. Wave Period - Time (in seconds) between the passage of two consecutive wave crests (or troughs) past a fixed point.

2. Surf

a. Surf - Waves that break along a shore or reef.

b. Surf Height - the height of a breaking wave (surf) measured from the trough to crest in terms of significant height.

APPENDIX B

CONTRACTIONS

1. Suffixes

In writing Enroute Weather Forecasts (WEAX), NAVPACMETOCCEN WEST/JTWC Guam uses meteorological contractions as listed in the Department of Transportation FAA Contractions Handbook 7340.1(series). Furthermore, these contractions may be modified by the addition of suffixes as follows:

-D = -ED; -N = -EN; -G = -ING; -NS = -NES, -INESS; -L = -AL; -R = -ER, -IER;

-MT = -MENT; -S= -S, -ES

NAVPACMETOCCEN WEST/JTWC Guam uses contractions (N, SE, W-SW, etc.) and full spellings (north, southeast, west-southwest, etc.) for compass directions.

2. Partial Listing of DOT 7340.1 Contractions

ABT.....About	CAT.....Clear Air	EXTRM....Extreme
ARND.....Around	Turbulence CAVU.....Ceiling	EXTSV....Extensive
ABV.....Above	& Visibility Unlimited	
ACLT.....Accelerate	CDFNT....Cold Front	FCST.....Forecast
ACPY.....Accompany	CHG.....Change	FILG.....Filling
ACRS.....Across	CIG.....Ceiling	FLW.....Follow
ACTV.....Active	CLD.....Cloud	FM.....From
ADV.....Advance	CLR.....Clear	FNT.....Front
AFCT.....Affect	CNTR.....Center	FQT.....Frequent
AFT.....After	CNTRL....Central	FRMG.....Forming
AHD.....Ahead	COND.....Condition	FRZ.....Freeze
ALF.....Aloft	CONT.....Continue,	FRZVL....Freezing Level
ALG.....Along	Continuously	FRZN.....Frozen
AMT.....Amount		FT.....Feet, Foot
APCH.....Approach	DCR.....Decrease	FTHR.....Further
ARND.....Around	DEG.....Degree	FWD.....Forward
AVG.....Average	DPNG.....Deepening	
	DRZL.....Drizzle	GEN.....General
BCKG.....Backing	DSIPT....Dissipate	GNDFG....Ground Fog
BCM.....Become	DSNT.....Distant	GRAD.....Gradient
BFR.....Before	DURG.....During	GRDL.....Gradual, -ly
BGN.....Begin, Began	DVLP.....Develop	GSTS.....Gusts
BHND.....Behind		GTR.....Greater
BKN.....Broken	EASTPAC..Eastern Pacific	
BLD.....Build	ELSW.....Elsewhere	HGT.....Height
BLO.....Below	ENDG.....Ending	HI.....High
BRF.....Brief	ENTR.....Entire	HL YR....Haze Layer Aloft
BRK.....Break	ERY.....Early	HVY.....Heavy
BTWN.....Between	EST.....Estimate	
BYD.....Beyond	XCP.....Except	ICG.....Icing
	XPC.....Expect	IN.....Inches
	XTND.....Extend	INCR.....Increase
		INDEF....Indefinite

INLD.....Inland
 INSTBY...Instability
 INTMD...Intermediate
 INTMT...Intermittent
 INTS.....Intense
 INTSFY...Intensify
 ISOLD....Isolated

 KT.....Knots

 LCL.....Local
 LGT.....Light
 LRG.....Large
 LTLCHG...Little Change
 LTNG.....Lightning
 LVL.....Level
 LWR.....Lower
 LYR.....Layer

 MAX.....Maximum
 MB.....Millibar
 MDT.....Moderate
 MET...Meteorological
 MI.....Mile(s)
 MID.....Middle
 MIN.....Minimum
 MISG.....Missing
 MOV.....Move
 MRGL.....Marginal
 MSL.....Mean Sea Level
 MSTLY....Mostly
 MXD.....Mixed

 NML.....Normal
 NMRS.....Numerous
 NR.....Near
 NXT.....Next

 OB.....Observation
 OBSC.....Obscure
 OCNL.....Occasional
 OFSHR....Offshore
 ONSHR....Onshore
 OTLK.....Outlook
 OTRW.....Otherwise
 OVC.....Overcast
 OVR.....Over
 OVRN.....Overrun

 PBL.....Probable
 PCPN...Precipitation
 PD.....Period
 PRES.....Pressure
 PRST.....Persist
 PSBL.....Possible
 PSG.....Passage, Passing

PTCHY....Patchy
 PTLY.....Partly
 PTN.....Portion
 PVL.....Prevail

 QSTNRY...Quasi- stationary
 QUAD.....Quadrant

 RAFL.....Rainfall
 RDG.....Ridge
 RGD.....Ragged
 RGN.....Region
 RLTV.....Relative
 RMN.....Remain
 RPD.....Rapid
 RPT.....Repeat
 RSG.....Rising
 RTE.....Route
 RUF.....Rough

 SCT.....Scattered
 SEC.....Second
 SFC.....Surface
 SGFNT....Significant
 SHFT.....Shift
 SHLW.....Shallow
 SHRT.....Short
 SHWR.....Shower
 SLGT.....Slight
 SLO.....Slow
 SMK.....Smoke
 SNW.....Snow
 SPD.....Speed
 SQLN.....Squall Line
 STBL.....Stable
 STG.....Strong
 STM.....Storm
 SVR.....Severe
 SYNOP....Synoptic
 SYS.....System

 TEMP....Temperature
 THK.....Thick
 THN.....Thin
 THRU.....Through
 THRUT....Thoughtout
 THSD....Thousand
 TMPRY....Temporary
 TROF....Trough
 TSHWR....Thunder Shower
 TURRBC...Turbulence
 TWD.....Toward
 TWRG.....Towering

UNKN.....Unknown
 UNL.....Unlimited
 UNRSTD..Unrestricted
 UNSTBL...Unstable
 UPR.....Upper

 VCNTY....Vicinity
 VR.....Veer
 VRBL.....Variable
 VSBY.....Visibility

 WDLY.....Widely
 WDSPRD...Widespread
 WEAX.....Enroute Weather
 Forecast
 WESTPAC..Western Pacific
 WK.....Weak
 WND.....Wind
 WRM.....Warm
 WRMFNT...Warm Front
 WSHFT....Wind Shift
 WX.....Weather